Draw the Titanic Sinking: Tilted Deck, Lifeboats, and Wave Breakup

Original tasks 1, 2, 3 / complete keys

Task 1

Draw a deck line rising 1 unit over 4 units from the bow. Label the rise-to-run ratio. Place two lifeboats below the deck edge. Describe where the stern is.

Answer: The deck line rises 1 unit for every 4 units along. Two lifeboats hang below the deck edge at intervals. The stern is the highest point of the deck line.

Reason: A 1:4 rise-to-run gives a shallow tilt that is easy to check. Hanging boats below the deck edge shows the vertical davit convention. The stern must be highest in a bow-down scene.

Check: Trace the deck line and confirm it rises 1 unit for every 4 units. Confirm both boats are below the deck edge and the stern is highest.

Task 2

A scene shows a smooth waterline and three lifeboats tilted with the deck. State two fixes and one check.

Answer: Fix one: break the waterline into crests and splash marks. Fix two: redraw lifeboats hanging vertically below the deck edge. Check: all davit lines are vertical.

Reason: Smooth waterline hides wave breakup. Tilted boats contradict the hanging convention. Vertical davit lines are the simplest check.

Check: Hold a straight edge vertically beside each davit line; it should align. Confirm the waterline has at least three breaks near the hull.

Task 3

Plan a scene frame with sky above and water below. The deck line starts at the bow on the waterline and rises 3 cm over 9 cm. How many equal deck segments can you mark if each segment is 3 cm along the deck?

Answer: Three equal segments of 3 cm each along the 9 cm deck line.

Reason: 9 cm divided by 3 cm per segment equals 3 segments. This is simple arithmetic with consistent units.

Check: Measure the deck line length and divide by segment length. Confirm the result is a whole number.

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Original tasks 4 / complete keys

Task 4

Draw three wave crest groups on each side of the hull. Each group has one crest and one splash. How many splash marks are there in total? Describe one valid alternative pattern.

Answer: Six splash marks total, three per side. A valid alternative is two crest groups per side with one splash between groups, giving four splash marks.

Reason: Three groups per side times two sides equals six groups, each with one splash. Alternatives are valid if the pattern is consistent and reads as breakup.

Check: Count splash marks and confirm they are distributed on both sides. Confirm the pattern is regular enough to read as waves.

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Source rubric / reflection

- [ ] Deck line is straight and tilted with the stern highest.
- [ ] Tilt angle is labeled or recorded and used consistently.
- [ ] Three or four lifeboats hang vertically below the deck edge.
- [ ] Waterline is broken with crests and splash marks near the hull.
- [ ] Scene frame includes sky above and water below.
- [ ] Construction lines are light and final lines are clear.
- [ ] Valid alternatives are accepted if structure and measurement are consistent.

Reflection: What did you check, what did you change, and what will you try next?